

structure may be had by removing skin, or installing access holes in the skin. Details for the installation of access holes in the vertical stabilizer skin are described in paragraphs 3-12 and 3-13.

3-70. VERTICAL STABILIZER SKIN.

3-71. DESCRIPTION. The skin is applied in three sections. All are .020 24ST alclad. One sheet is wrapped around the leading edge back to the first stringer, the other two skin panels are lapped under the leading edge skin at the stringer and held by AN470AD3 rivets. These sheets are riveted to the second stringer and flanges of the beams by AN470AD4 rivets.

3-72. NEGLIGIBLE DAMAGE. Smooth shallow dents located anywhere on the vertical stabilizer skin and free of cracks and abrasions may be disregarded, provided these dents do not exceed a depth of 1/8 inch and a diameter of 1-1/2 inches, and adjacent dents are located at a distance of 15 inches. Dents exceeding the above limits and subsequently bumped back to contour without cracking or creasing the skin may be classified as negligible damage. Scratches which do not penetrate beyond the alclad coating are considered negligible damage.

3-73. DAMAGE REPAIRABLE BY PATCHING.

3-74. GENERAL. Any damage which exceeds that specified in paragraph 3-72 must be repaired. See paragraph 3-11.

3-75. ACCESS DOOR, CLEAR OF INTERNAL STRUCTURE. See paragraph 3-12.

3-76. ACCESS DOOR, OVER INTERNAL STRUCTURE. See paragraph 3-13.

3-77. RIVETED SKIN PATCH, CLEAR OF INTERNAL STRUCTURE. See paragraph 3-14.

3-78. RIVETED SKIN PATCH, OVER INTERNAL STRUCTURE. See paragraph 3-15.

3-79. LEADING EDGE REPAIR, CLEAR OF INTERNAL STRUCTURE. See paragraph 3-16.

3-80. LEADING EDGE REPAIR, OVER INTERNAL STRUCTURE. See paragraph 3-17.

3-81. DAMAGE REPAIRABLE BY INSERTION. See paragraph 3-18.

3-82. DAMAGE NECESSITATING REPLACEMENT. See paragraph 3-19.

3-83. VERTICAL STABILIZER BEAM.

3-84. DESCRIPTION. The vertical stabilizer beam extends the full span of the vertical stabilizer. This beam consists of an .032 24ST alclad channel with flanges reinforced by .072 24ST cap angles whose vertical legs taper from one inch at the stabilizer root to 5/16 inch at the center hinge fitting.

3-85. NEGLIGIBLE DAMAGE. Web damage not exceeding the following limits requires no repair or reinforcement. Smooth dents free of cracks and abrasions and clear of lightening hole flanges may be disregarded, provided the dents do not exceed a depth of 1/8 inch and a diameter of 1-1/2 inches and adjacent dents are at a distance of 15 inches. Web dents exceeding the above limits and subsequently bumped back to contour without cracking, creasing or oil canning the web may

be classified as negligible damage. Bent or dented cap angles and flanges free of cracks and abrasions which are reworked to their original shape, free of waviness, and without cracking or creasing may be considered negligible damage. Scratches, located anywhere on the beam, which do not penetrate beyond the alclad coating may be classified negligible damage.

3-86. DAMAGE REPAIRABLE BY PATCHING. Damage to the beam between station 13.3 and the tip can be repaired similar to figure 3-3. The beam channel is repaired with .040 24ST alclad angles and plate. All rivets used for the repair are AN470AD5. Damage occurring to the .072 24ST alclad beam caps requires replacement of the part (See paragraph 3-89.)

3-87. DAMAGE REPAIRABLE BY INSERTION. Damage between station 13.3 and the tip of the .032 24ST clad beam channel which exceeds eight inches must be repaired by insertion. Insert a .032 24ST alclad channel identical to the beam in the damaged area. The ends of the inserted channel must be butted against and lined up with the existing beam channel. The inserted channel must be spliced to the existing structure similar to figure 3-3.

3-88. DAMAGE REPAIRABLE BY REPLACEMENT.

3-89. BEAM CAP ANGLES. Due to the short length of the .072 24ST cap angles repairing is not practical for damage exceeding negligible damage, and therefore these cap angles should be replaced.

3-90. BEAM-ROOT TO STATION 13.3 Due to the short length repairing is not practical for damaged channels and they should be replaced.

3-91. BEAM-STATION 13.3 TO TIP. Damage requiring more than one insertion or two splice repairs should be repaired by replacement of the part.

3-92. VERTICAL STABILIZER RIBS.

3-93. DESCRIPTION. (See figure 3-1.) The ribs are fabricated from 24ST alclad sheet. All ribs have beads, flanged lightening holes, upper and lower skin attachment flanges, and bent vertical flanges on the aft end of the ribs, which are used to rivet the ribs to the beam. The top most rib is a complete airfoil, extending aft over the rudder. The main beam ends on the lower side of the top rib and the vertical stabilizer tip is fastened to the upper side.

3-94. NEGLIGIBLE DAMAGE. Smooth dents free of cracks and abrasions and clear of lightening hole flanges or bends may be disregarded, provided the dents do not exceed a depth of 1/8 inch and a diameter of 1-1/2 inches and adjacent dents are at a distance of 15 inches. Dents exceeding the above limits, and bent flanges, bumped back to contour without cracking or creasing the rib may be classified as negligible damage. Scratches which do not penetrate beyond the alclad coating may be considered negligible damage.

3-95. DAMAGE REPAIRABLE BY PATCHING. Damage to ribs which may vary in extent and location must be repaired in accordance with the repair data shown on figures B-5 and B-6.

3-96. DAMAGE REPAIRABLE BY INSERTION. Damage to the rib which exceeds approximately 1/3 the length of the rib should be repaired by an insertion repair. The insertion repair should be the same gage, section and material as the existing structure or an equivalent section. Damage to the forward or aft portion of the